SECRET
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R & D CATALOG FORM

DATE: 11 January 1965

1. PROJECT TITLE/CODE NAME: Study of Image Restoration

2. SHORT PROJECT DESCRIPTION: An investigation of the use of coherent processing of photography to restore image quality.

3. CONTRACTOR NAME: [redacted]

4. LOCATION OF CONTRACTOR: [redacted]

25X1A

5. CLASS OF CONTRACTOR: Manufacturer

25X1A

6. TYPE OF CONTRACT: CPFF

7. FUNDS: FY 19 $

8. REQUISITION NO.: NA

9. BUDGET PROJECT NO.: NP-S-31

FY 19 $ [redacted]

25X1A

10. EFFECTIVE CONTRACT DATE (Begin - end): July 1965 - July 1966

11. SECURITY CLASS.: A. A. - Secret; T. - Secret; W. - Secret

12. RESPONSIBLE DIRECTORATE/OFFICE/PROJECT OFFICER TELEPHONE EXTENSION

25X1A

DDI/NPIC/P&DS [redacted] 3435

13. REQUIREMENT/AUTHORITY: To preserve the maximum information content of reconnaissance photography.

14. TYPE OF WORK TO BE DONE: Basic Research/Applied Research

15. CATEGORIES OF EFFORT

MAJOR CATEGORY	SUB-CATEGORIES
Special Techniques and Studies	Cameras
	Film
	Lens Systems
	Optical Systems

16. END ITEM OR SERVICES FROM THIS CONTRACT/IMPROVEMENT OVER CURRENT SYSTEM, EQUIPMENT, ETC.: Technical Progress Reports

17. SUPPORTING OR RELATED CONTRACTS (Agency & Other)/COORDINATION: A survey has indicated that no other investigation of this type is in progress.

18. DESCRIPTION OF INTELLIGENCE REQUIREMENT AND DETAILED TECHNICAL DESCRIPTION OF PROJECT (Continue on additional page if required)

Image forming optical systems degrade the images they produce, and since these degradations are difficult to compensate for, there is usually a resultant loss in information content. The purpose of this study is to determine if coherent, complex spatial filtering can achieve a useful degree of image restoration. More specifically, the problem shall be investigated using coherent processing to compensate for the amplitude and phase distortion of spatial frequencies introduced

(Cont'd)

19. APPROVED BY AND DATE

OFFICE	DEPUTY DIRECTOR	DDCI

Declass Review by NIMA/DOD
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FORM 11-64 2338

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GROUP 1 Excluded from automatic downgrading and declassification

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by the optical image-forming system. It will require construction of spatial frequency filters in which both amplitude and phase are controlled. Since this contractor has previously established an ability to achieve such filter fabrication, the major concentration will be on determining if existing techniques provide a useful tool to attack this restoration problem.

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